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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,476

05/09/2007

Andre Peter Steynberg

U 016430-9

6718

140 7590 07/25/2008

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EXAMINER

VALENROD, YEVGENY

ART UNIT

PAPER NUMBER

1621

MAIL DATE

DELIVERY MODE

07/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,476	Applicant(s) STEYNBERG, ANDRE PETER	
	Examiner YEVEGENY VALENROD	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/09/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Objection to the specification

The disclosure is objected to because of the following informalities: The disclosure must comprise a section titled "brief description of the drawings" where the drawing is identified (for example: Fig # or Drawing #) and a brief description is provided.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gersmann et al. (GB 2 092 172 A) in view of Espinoza et al. (US 6,653,357), Janda et al. (WO 02/26676 A2) and Ullmanns Encyclopedia of Industrial Chemistry 6th edition pages 651-660.

Scope of prior art

Gersmann et al disclose a process for the preparation of dimethyl ether (DME) from gaseous feedstock comprising hydrogen, carbon monoxide and carbon dioxide in the first stage (page 2, lines 34-46). DME is separated and the gaseous product of the first stage comprising hydrogen and carbon monoxide is fed to a second stage Fischer-

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Tropsch reaction to produce hydrocarbons (page 2, lines 47-54). On page 6, lines 34-37, Gersmann et al describe a third embodiment of their invention where light olefins and/or aromatic hydrocarbons are produced in the process (limitation of claims 3, 7).

Ascertaining the difference between instant claims and prior art

Gersmann et al fail to teach:

- 1) Recycling of the tail gas from the DME syntheses stage.
- 2) Syngas number between 1.8 and 2.2.
- 3) High temperature two-phase Fischer-Tropsch stage.

Secondary references

A) Janda et al. (WO 02/26676 A2) teach a preferred syngas number for methanol syntheses (which is a precursor to DME syntheses) from 1.8 to 2.2 (page 3, lines 21-23).

B) Espinoza et al. (US 6,653,357 B1) teach high temperature two-phase Fischer-Tropsch reaction (column 1, lines 30-42).

C) Ullmanns Encyclopedia of industrial Chemistry, 6th ed. On page 659, chapter 2.2.4 and page 660, figure 6, teaches various methods of refining the crude product from Fischer-Tropsch. Also on page 651, right column lines 25-26, teach that Naphtha is an ideal feedstock for cracking to olefin.

Obviousness

One skilled in the art would have found is obvious to perform the process of Gersmann et al. using preferred embodiments known in the art. The syngas number is

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obvious because Janda et al recommend the 1.8 to 2.2 range as a preferred range for methanol syntheses. Recycling of the tail gas is not necessary when ratio of gas being recycled is 0:1. Forming various products from Fischer-Tropsch reaction via known reforming steps is obvious because Ulmanns Encyclopedia teaches the products and which techniques are used to prepare them.

Conclusion

Claims 1-10 are pending

Claims 1-10 are rejected

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yevgeny Valenrod whose telephone number is 571-272-9049. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yevgeny Valenrod/

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